



6,881,654.

**North America  
Intellectual Property Corporation**

P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

FAX: 806-498-6673

e-mail: [winstonhsu@naipo.com](mailto:winstonhsu@naipo.com)

**FAX TO: Certificate of Correction Branch**

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**FROM: Winston Hsu, PATENT AGENT, REG. NO.: 41,526**

**SERIAL NO.: 10/065,568**

**ATTORNEY DOCKET NO.: NAUP0482USA**

**SUBJECT: REQUEST FOR CERTIFICATE OF  
CORRECTION**

**TOTAL PAGES: 8 PAGES (INCLUDING COVER PAGE)**

**Winston Hsu 2005/5/2**

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PTO/SB/97 (09-04)

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Application Number: 10/065,568

(1) Transmittal Form

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6 PAGES

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<b>TRANSMITTAL FORM</b>	Application Number	10/065,568
	Filing Date	10/31/2002
	First Named Inventor	Kuo-Ming Chen
	Art Unit	2824
	Examiner Name	Michael Lebentritt
Total Number of Pages in This Submission		6
Attorney Docket Number		NAUP0482USA

(to be used for all correspondence after initial filing)

### ENCLOSURES (Check all that apply)

<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD <input type="checkbox"/> Remarks	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): -Request for Certificate of Correction -a copy of Notice of Recordation of Assignment Document -a copy of the front page of the Patent
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### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	North America Intellectual Property Corporation		
Signature	<i>Winston Hsu</i>		
Printed name	Winston Hsu		
Date	05/02/2005	Reg. No.	41,526

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PTO/SB/17 (12-04)

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Effective on 12/08/2004.  
Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).**FEE TRANSMITTAL**  
**For FY 2005**☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 0.00

**Complete if Known**

Application Number	10/065,568
Filing Date	10/31/2002
First Named Inventor	Kuo-Ming Chen
Examiner Name	Michael Lebentritt
Art Unit	2824
Attorney Docket No.	NAUP0482USA

**METHOD OF PAYMENT (check all that apply)**

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): \_\_\_\_\_

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**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

**2. EXCESS CLAIM FEES**

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent	50	25
Each independent claim over 3 or, for Reissues, each independent claim more than in the original patent	200	100
Multiple dependent claims	360	180
<b>Total Claims</b>	<b>Extra Claims</b>	<b>Fee (\$)</b>
- 20 or HP = _____ x _____ = _____		
HP = highest number of total claims paid for, if greater than 20		
<b>Indep. Claims</b>	<b>Extra Claims</b>	<b>Fee (\$)</b>
- 3 or HP = _____ x _____ = _____		
HP = highest number of independent claims paid for, if greater than 3		

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
- 100 = _____ / 50 = _____ (round up to a whole number) x _____ = _____				

**4. OTHER FEE(S)**

Non-English Specification, \$130 fee (no small entity discount)

Other: \_\_\_\_\_

**SUBMITTED BY**

Signature	<i>Winston Hsu</i>	Registration No. (Attorney/Agent)	41,526	Telephone	302-729-1562
Name (Print/Type)	Winston Hsu	Date	05/02/2005		

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**PATENT****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Patent No.: 6,881,654 Issue Date: 04/19/2005  
5 App. No.: 10/065,568 Filing Date: 10/31/2002  
Inventors: Kuo-Ming Chen et al.  
Examiner: Michael Lebentritt Art Unit: 2824  
Docket No.: NAUP0482USA

10 Title: SOLDER BUMP STRUCTURE AND LASER REPAIR PROCESS  
FOR MEMORY DEVIC

To: Commissioner for Patents  
P.O. BOX 1450

15 Alexandria, VA 22313-1450

Subject: Request for Certificate of Correction of Office Mistake

Dear Sir:

20

Upon reviewing the above-identified patent, patentee noted the assignee's name should be corrected. As the agent of record, I hereby request that a Certificate of Correction be issued under 37 CFR 1.322 to correct the assignee's name

"United Electronics Corp." into "United Microelectronics Corp.". A copy of the

25 Notice of Recordation of Assignment Document and the front page of the Patent are enclosed herewith.

Respectfully submitted,

Winston Hsu

Date: May 2, 2005

Winston Hsu, Patent Agent No. 41,526

5 P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

Facsimile: 806-498-6673

e-mail : winstonhsu@naipo.com

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Attachment

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PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 10/31/2002

REEL/FRAME: 013213/0174  
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:  
CHEN, KUO-MING

DOC DATE: 10/16/2002

ASSIGNOR:  
LIU, HUNG-MIN

DOC DATE: 10/16/2002

ASSIGNEE:  
UNITED MICROELECTRONICS CORP.  
NO.3, LI-HSIN ROAD 2  
SCIENCE-BASED INDUSTRIAL PARK  
HSIN-CHU CITY, TAIWAN

SERIAL NUMBER: 10065568  
PATENT NUMBER:

FILING DATE:  
ISSUE DATE:

ALLYSON PURNELL, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS



US006881654B2

(12) **United States Patent**  
Chen et al.

(10) **Patent No.:** US 6,881,654 B2  
(45) **Date of Patent:** Apr. 19, 2005

(54) **SOLDER BUMP STRUCTURE AND LASER REPAIR PROCESS FOR MEMORY DEVICE**

(75) **Inventors:** Kuo-Ming Chen, Hsin-Chu Hsien (TW); Hung-Min Liu, Hsin-Chu (TW)

(73) **Assignee:** United Electronics Corp., Hsin-Chu (TW)

(\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 22 days.

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(21) **Appl. No.:** 10/065,568

(22) **Filed:** Oct. 31, 2002

(65) **Prior Publication Data**

US 2004/0087129 A1 May 6, 2004

(51) **Int. Cl.:** H01L 21/20; H01L 21/4763

(52) **U.S. Cl.:** 438/497; 438/478; 438/612; 438/614

(58) **Field of Search:** 438/497, 478, 438/753, 612-614

(56) **References Cited**

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**Primary Examiner**—Michael Lebentritt  
(74) **Attorney, Agent, or Firm**—Winston Hsu

(57) **ABSTRACT**

A solder bump structure and laser repair process for memory device include forming a first dielectric layer on a bump pad of a semiconductor wafer. After that, the first dielectric layer is etched to form a contact hole and to expose portions of the bump pad. A second dielectric layer is then formed on a surface of the semiconductor wafer outside of the contact hole. An under bump metallurgy (UBM) process is performed to form a metal layer on a surface of the contact hole, and a solder bump is formed on the metal layer. Finally the laser repair process for memory device is completed.

9 Claims, 8 Drawing Sheets

